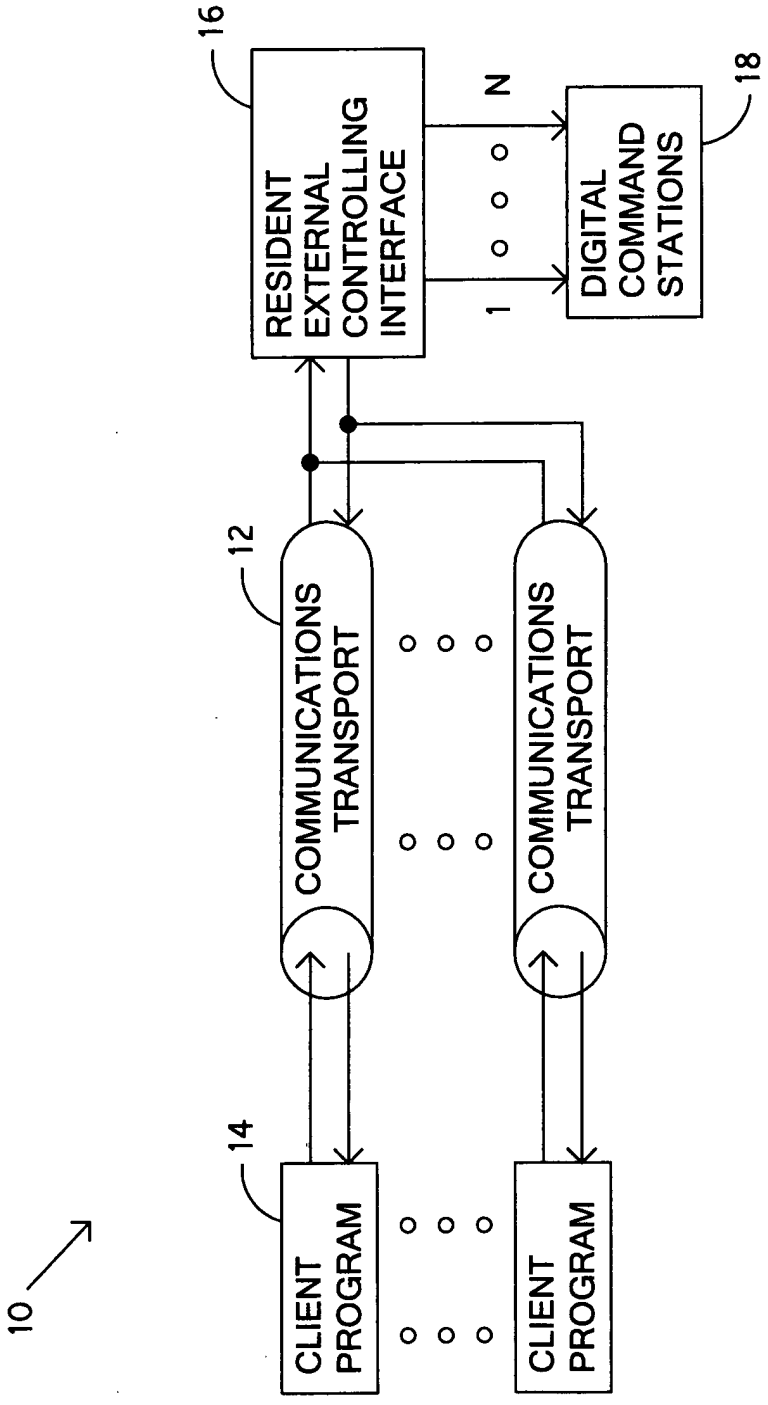


FIG. 1

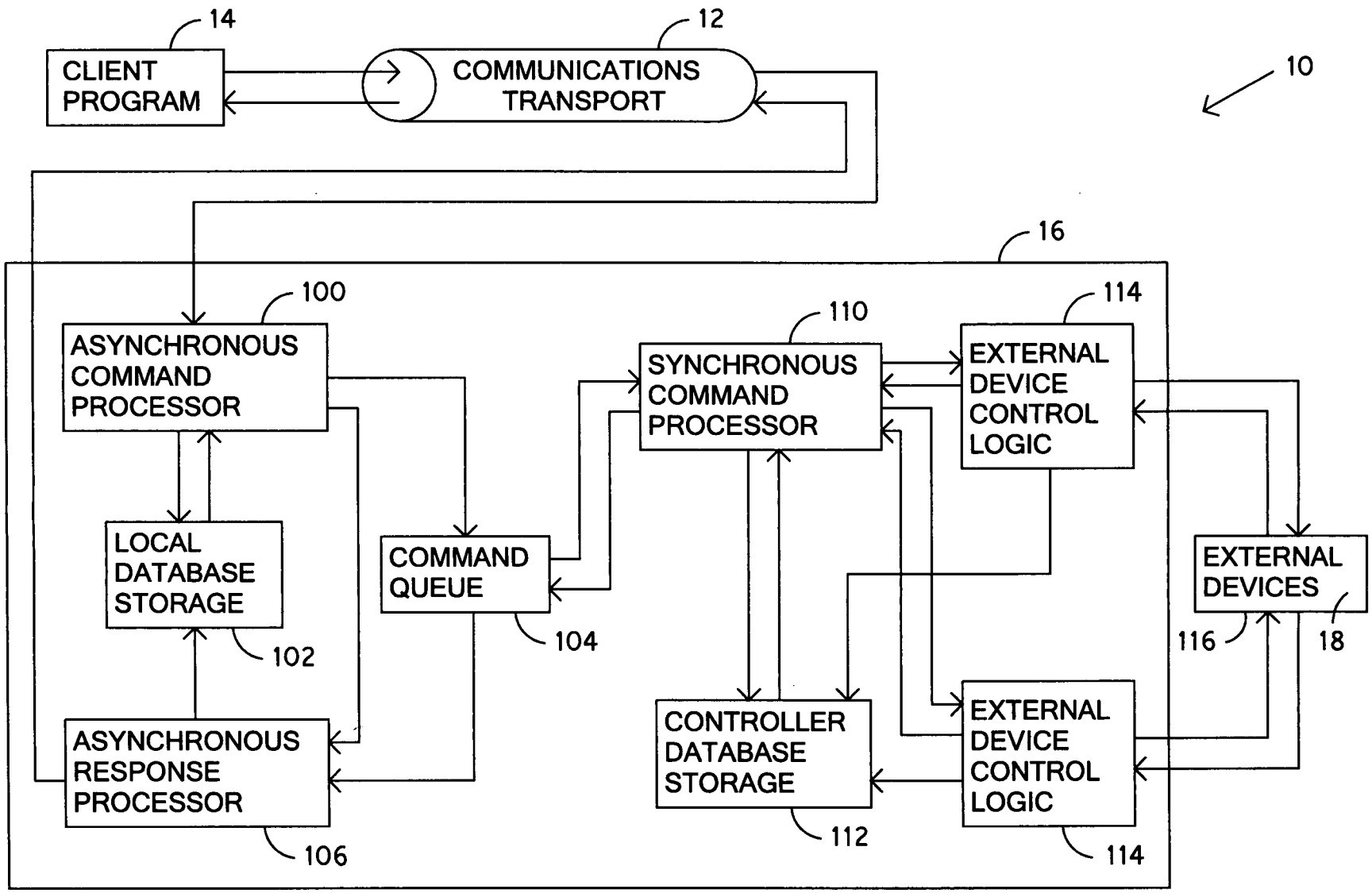

14
CLIENT PROGRAM
12
COMMUNICATIONS TRANSPORT
10
16
100
ASYNCHRONOUS COMMAND PROCESSOR
110
SYNCHRONOUS COMMAND PROCESSOR
114
EXTERNAL DEVICE CONTROL LOGIC
LOCAL DATABASE STORAGE
102
COMMAND QUEUE
104
EXTERNAL DEVICES
116
18
ASYNCHRONOUS RESPONSE PROCESSOR
106
CONTROLLER DATABASE STORAGE
112
EXTERNAL DEVICE CONTROL LOGIC
114

FIG. 2

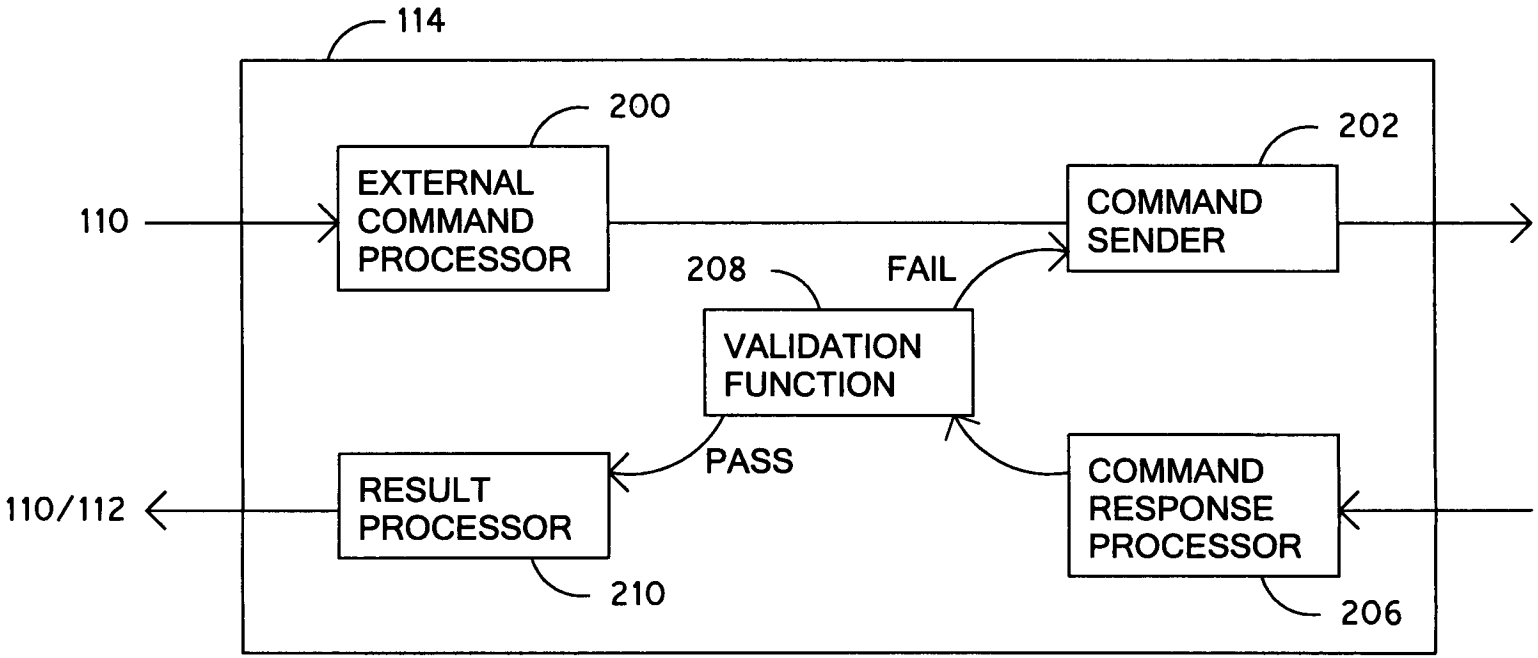
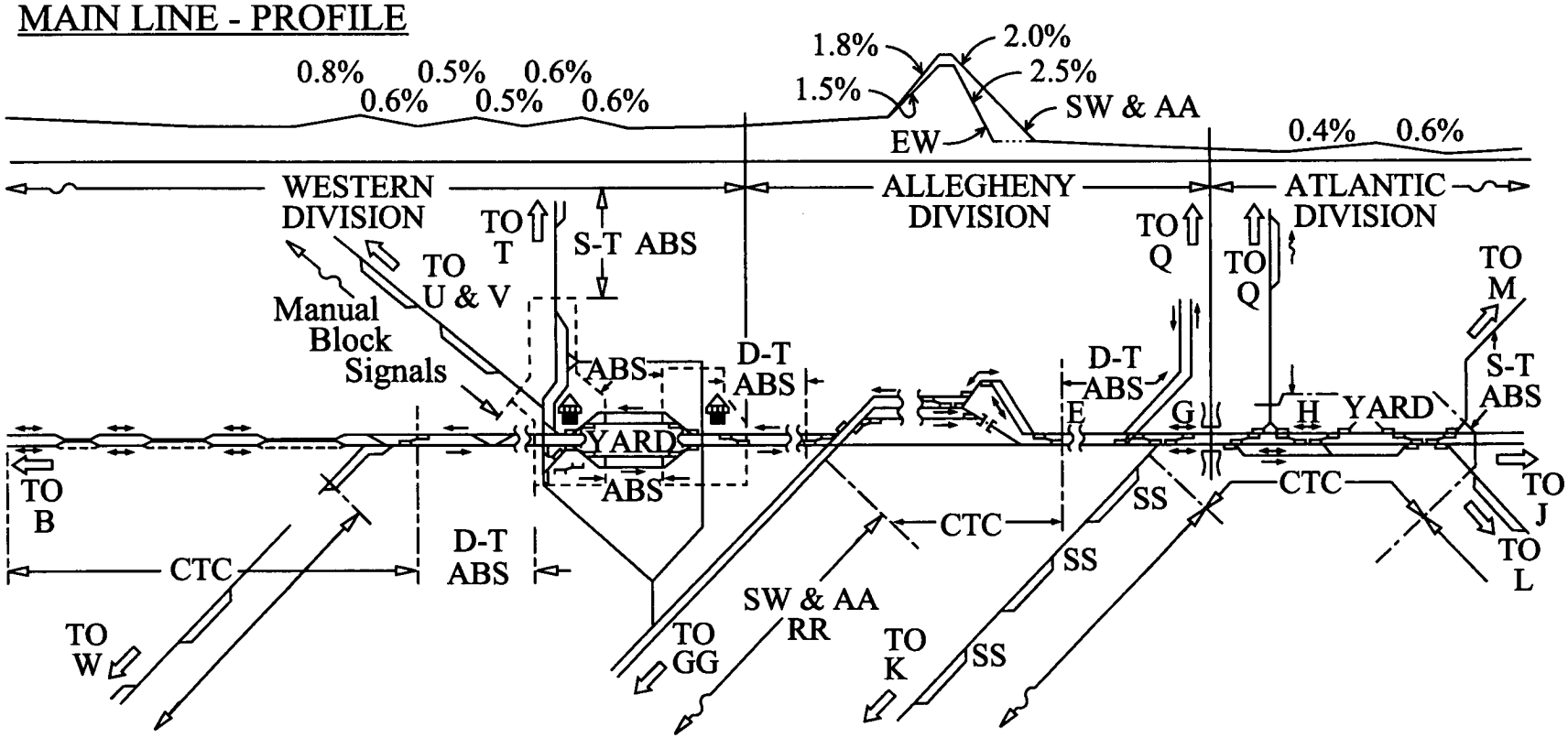

114
200
202
EXTERNAL COMMAND PROCESSOR
COMMAND SENDER
110
208
FAIL
VALIDATION FUNCTION
PASS
RESULT PROCESSOR
COMMAND RESPONSE PROCESSOR
110/112
210
206

FIG. 3



KEY:

	POWER-OPERATED SWITCHES		INTERLOCKING TOWER	CTC =	CENTRALIZED TRAFFIC CONTROL
	MANUALLY-OPERATED SWITCHES		RESTRICTED CLEARANCE TUNNEL	SS =	SPRING SWITCH
	DIRECTION OF SIGNAL-CONTROLLED TRAFFIC	ABS =	AUTOMATIC BLOCK SIGNALS	D-T =	DOUBLE-TRACK
				S-T =	SINGLE-TRACK

FIG. 4

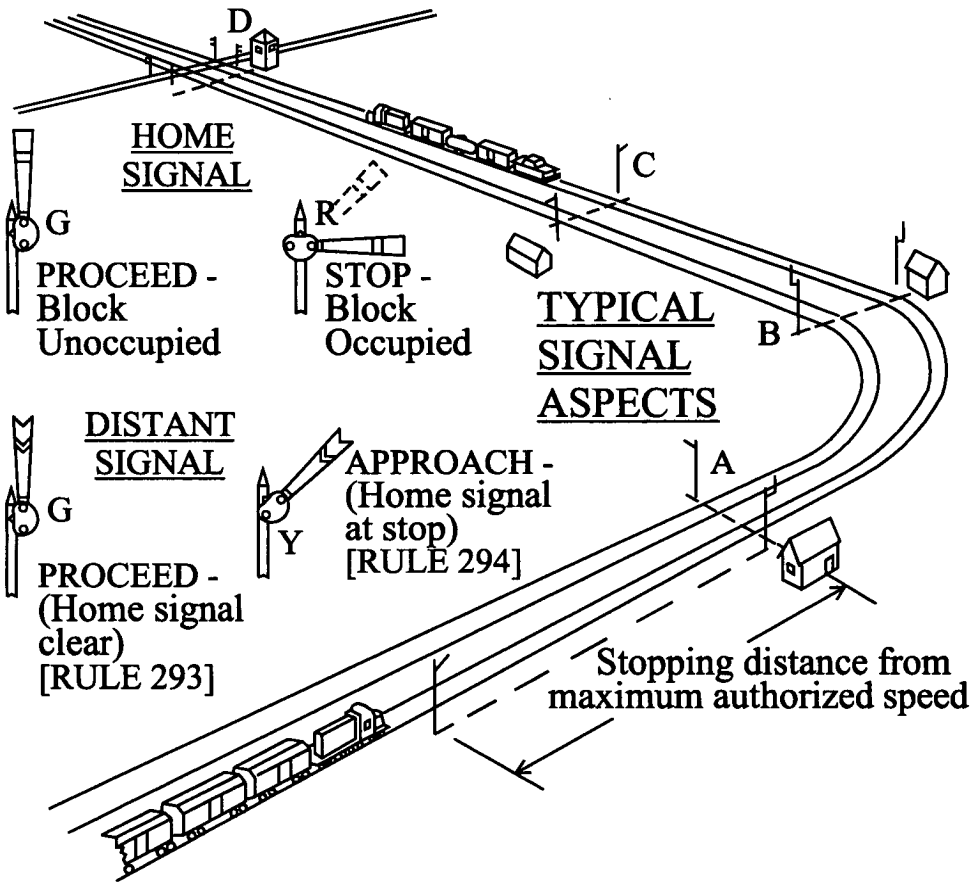

D
HOME
SIGNAL
G
PROCEED -
Block
Unoccupied
R
STOP -
Block
Occupied
C
TYPICAL
SIGNAL
ASPECTS
B
DISTANT
SIGNAL
G
PROCEED -
(Home signal
clear)
[RULE 293]
Y
APPROACH -
(Home signal
at stop)
[RULE 294]
A
Stopping distance from
maximum authorized speed

FIG. 5

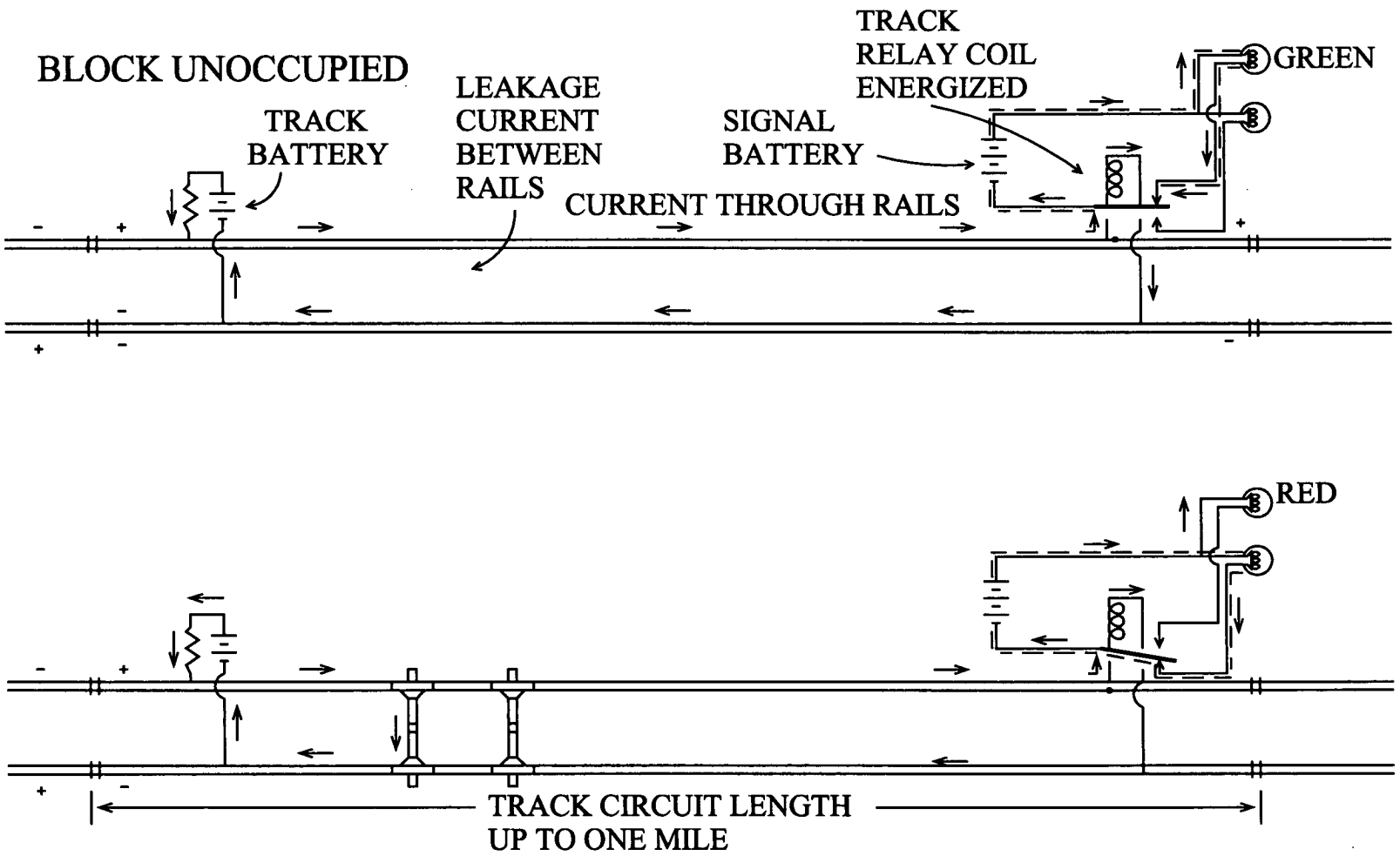

BLOCK UNOCCUPIED
TRACK BATTERY
LEAKAGE CURRENT BETWEEN RAILS
CURRENT THROUGH RAILS
SIGNAL BATTERY
TRACK RELAY COIL ENERGIZED
GREEN
RED
TRACK CIRCUIT LENGTH
UP TO ONE MILE

FIG. 6

BLOCK SIGNAL PRACTICE - EXAMPLE

NAME	ASPECT	INDICATION
STOP		STOP AND PROCEED
APPROACH		PROCEED PREPARED TO STOP AT NEXT SIGNAL *
APPROACH MEDIUM		PROCEED PREPARED TO STOP AT SECOND SIGNAL *
ADVANCE APPROACH		PROCEED PREPARED TO STOP AT THIRD SIGNAL †
CLEAR		PROCEED

R = RED Y = YELLOW G = GREEN

* TRAIN EXCEEDING MEDIUM SPEED MUST IMMEDIATELY REDUCE TO THAT SPEED

† TRAIN EXCEEDING LIMITED SPEED MUST IMMEDIATELY REDUCE TO THAT SPEED

FIG. 7A

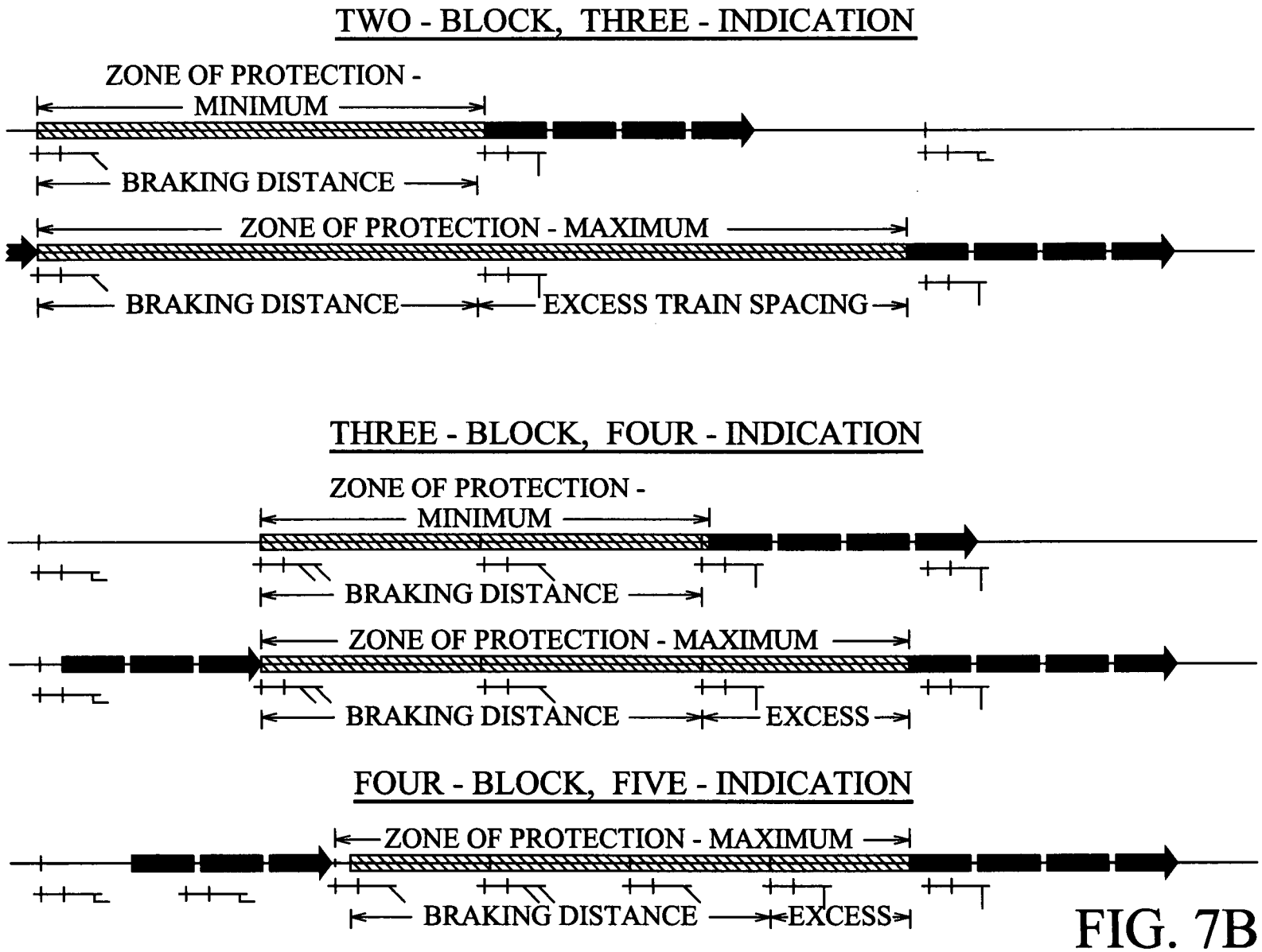
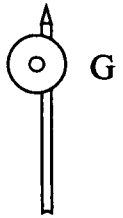
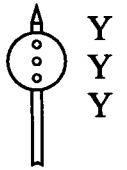
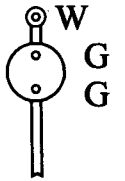
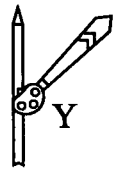
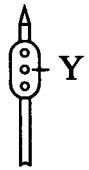
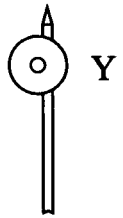
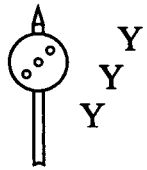
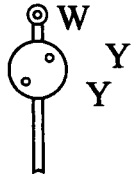
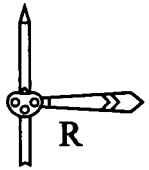
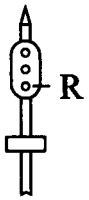
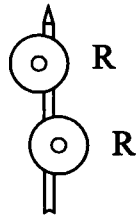
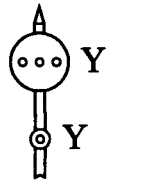
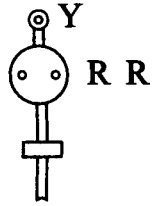
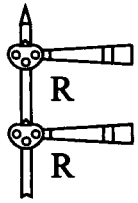
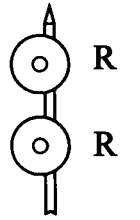
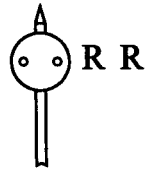

TWO - BLOCK, THREE - INDICATION
ZONE OF PROTECTION -
MINIMUM
BRAKING DISTANCE
ZONE OF PROTECTION - MAXIMUM
BRAKING DISTANCE
EXCESS TRAIN SPACING
THREE - BLOCK, FOUR - INDICATION
ZONE OF PROTECTION -
MINIMUM
BRAKING DISTANCE
ZONE OF PROTECTION - MAXIMUM
BRAKING DISTANCE
EXCESS
FOUR - BLOCK, FIVE - INDICATION
ZONE OF PROTECTION - MAXIMUM
BRAKING DISTANCE
EXCESS

FIG. 7B

NAME	INDICATION	ASPECTS: SEMAPHORE (UPPER QUADRANT)	COLOR LIGHT	SEARCH-LIGHT	POSITION LIGHT (MODIFIED)	COLOR POSITION LIGHT
CLEAR	PROCEED AT NORMAL SPEED (RULE 281)					
APPROACH	APPROACH PREPARED TO STOP AT NEXT SIGNAL (RULE 285)					
STOP AND PROCEED	STOP AND PROCEED AT RESTRICTED SPEED (RULE 509)					
ABSOLUTE STOP	STOP (RULE 292)					

R = RED
Y = YELLOW
G = GREEN
W = LUNER WHITE

FIG. 8

ASPECTS OF SIGNALS AT:	A	B	C
IF CLEARED FOR ROUTE STRAIGHT THROUGH TO TRACK ① (NORMAL SPEED)	G R R	G R R	G R R
IF CLEARED FOR DIVERGING ROUTE THROUGH HIGH-SPEED TURNOUT TO TRACK ② (LIMITED SPEED = 50 MPH)	G R R	Y G G	R G G
IF CLEARED FOR DIVERGING ROUTE THROUGH NO. 16 CROSSOVER TO TRACK ③ (MEDIUM SPEED = 30 MPH)	G Y R	Y G R	R G R
IF CLEARED FOR DIVERGING ROUTE THROUGH NO. 12 CROSSOVER INTO TRACK ④ (SLOW SPEED = 15 MPH)	Y G R	Y R G	R R G

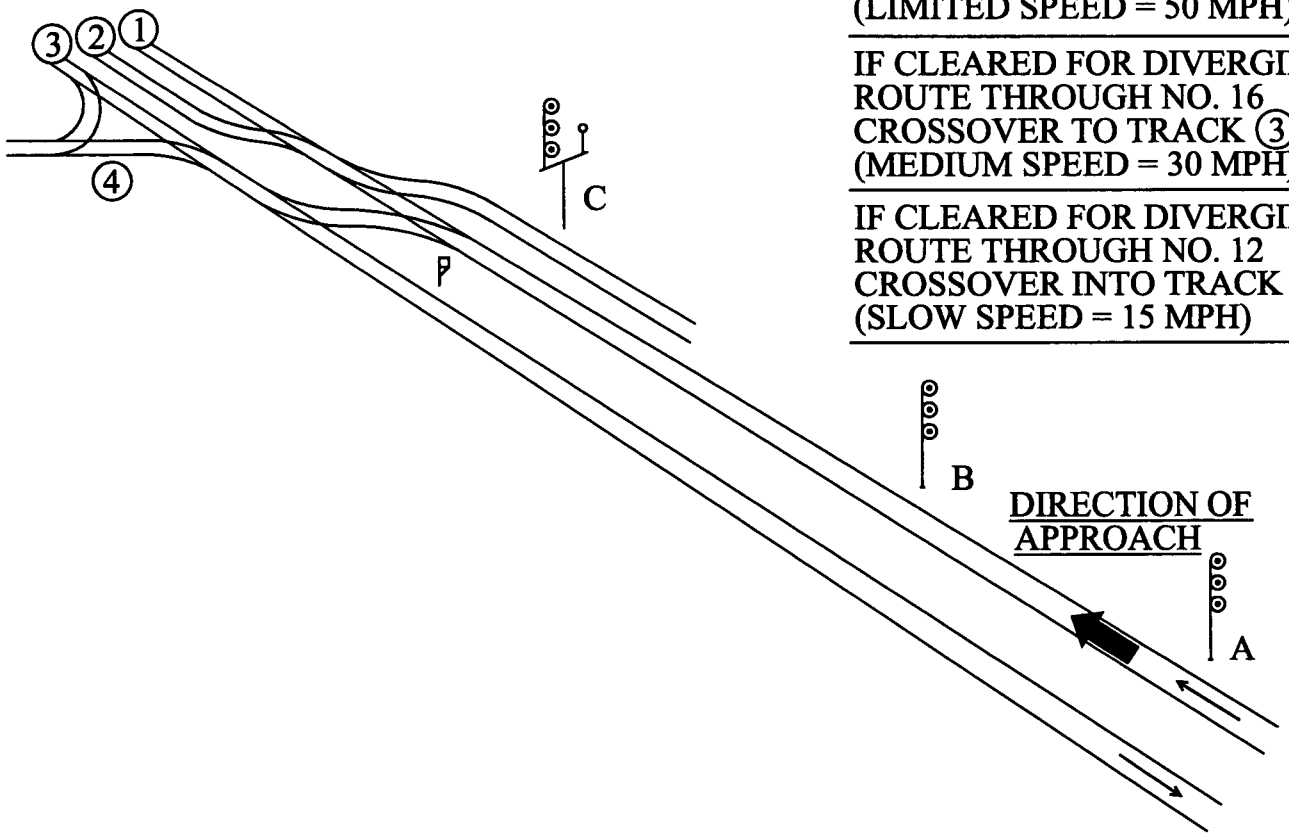


FIG. 9A

ASPECT	NAME	INDICATION
G R R	CLEAR	PROCEED AT NORMAL SPEED
Y R R	APPROACH	PROCEED APPROACHING NEXT SIGNAL PREPARED TO STOP; TRAIN EXCEEDING MEDIUM SPEED MUST IMMEDIATELY REDUCE TO THAT SPEED
Y R G	APPROACH SLOW	PROCEED APPROACHING NEXT SIGNAL AT SLOW SPEED; TRAIN EXCEEDING MEDUM SPEED MUST IMMEDIATELY REDUCE TO THAT SPEED.
G Y R	ADVANCE APPROACH MEDIUM	PROCEED APPROACHING SECOND SIGNAL AT MEDIUM SPEED.
Y G R	APPROACH MEDIUM	PROCEED APPROACHING NEXT SIGNAL AT MEDIUM SPEED.
Y G G*	APPROACH LIMITED	PROCEED APPROACHING NEXT SIGNAL AT LIMITED SPEED
R G R	MEDIUM CLEAR	PROCEED; MEDIUM SPEED WITHIN INTERLOCKING LIMITS
R G G*	LIMITED CLEAR	PROCEED; LIMITED SPEED WITHIN INTERLOCKING LIMITS
R R G	SLOW CLEAR	PROCEED; SLOW SPEED WITHIN INTERLOCKING LIMITS

* May be replaced with triangular marker plate below second signal head (indicating "limited speed") if layout does not include medium speed routes

FIG. 9B

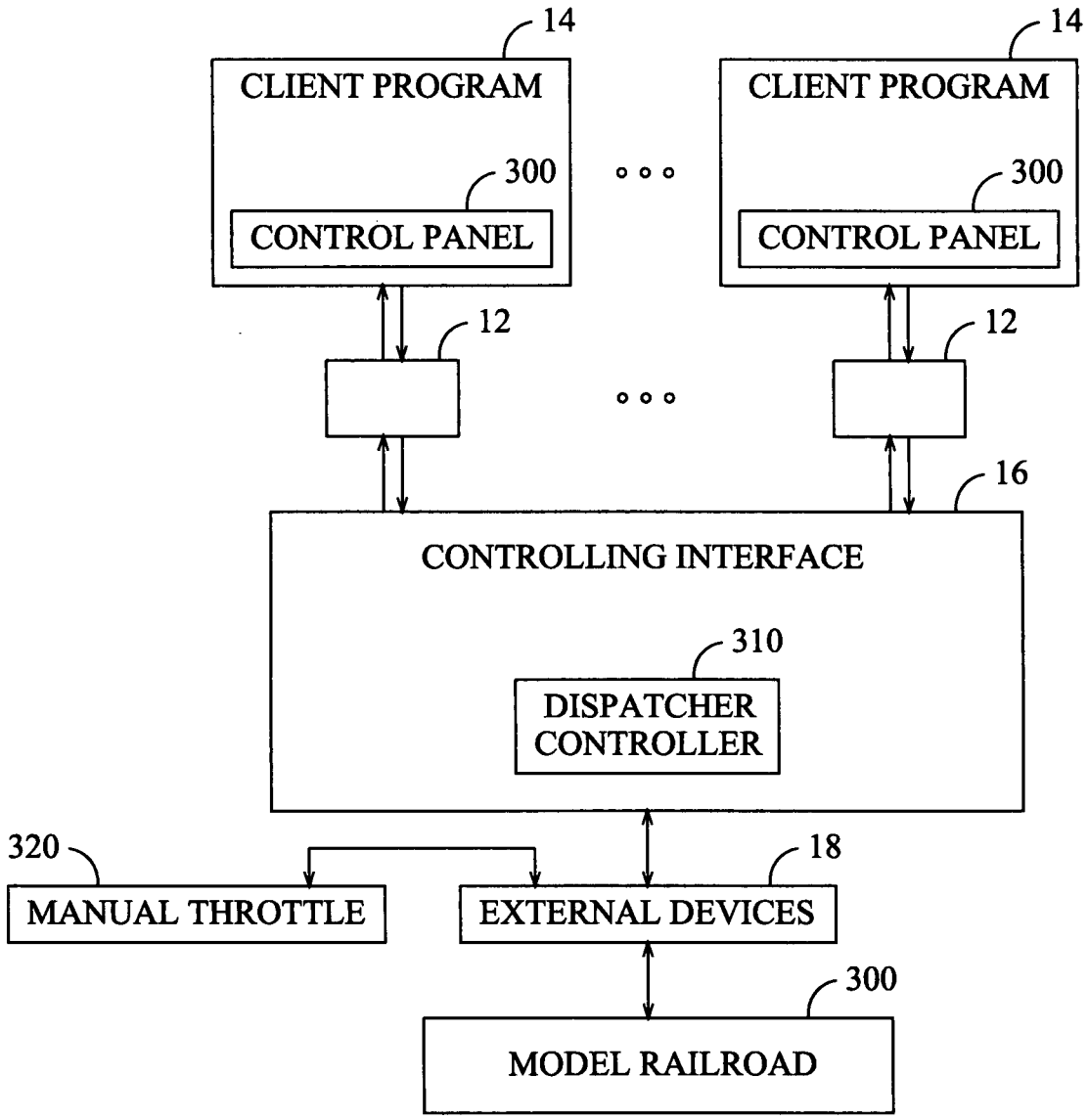

14
CLIENT PROGRAM
300
CONTROL PANEL
14
CLIENT PROGRAM
300
CONTROL PANEL
12
12
16
CONTROLLING INTERFACE
310
DISPATCHER CONTROLLER
320
MANUAL THROTTLE
18
EXTERNAL DEVICES
300
MODEL RAILROAD

FIG. 10

COMMAND QUEUE

PRIORITY	TYPE	COMMAND
5	A	INCREASE LOCO 1 BY 2
37	B	OPEN SWITCH 1
15	B	CLOSE SWITCH 1
26	B	OPEN SWITCH 1
6	A	DECREASE LOCO 2 BY 5
176	B	CLOSE SWITCH 6
123	C	TURN ON LIGHT 5
85	D	QUERY LOCO 3
5	A	INCREASE LOCO 2 BY 7
9	A	DECREASE LOCO 1 BY 2
0	E	MISC
37	D	QUERY LOCO 2
215	D	QUERY SWITCH 1
216	C	TURN ON LIGHT 3
227	D	QUERY SWITCH 5
225	C	TURN ON LOCO 1 LIGHT
0	D	QUERY ALL
255	A	STOP LOCO 1

FIG. 11